11.3.16

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July 8, 2002
99056

Rodney G. Struck, R.G.
Oregon Department of Environmental Quality
2020 SW 4th Avenue, Suite 400
Portland, Oregon, 97201-4987

Re: Response to June 11, 2002 DEQ Comments,
Pre-Remedial Investigation, Brix Maritime Site, ECSI No. 2364

Dear Rod:

The purpose of this letter is to provide written response to the above referenced comments by DEQ on the May 22, 2002 Pre-RI Assessment Work Plan prepared by Anchor Environmental, L.L.C. (Anchor) on behalf of Brix Maritime Company (Brix). Resolution of the issues addressed in the June 11, 2002 DEQ letter has resulted from various telephone conversations with DEQ, from a meeting on June 19, 2002 with DEQ, and from a revised monitoring well location map sent electronically to DEQ on June 27, 2002.

In your June 11, 2002 letter, DEQ's comments are divided into those addressing the Pre-RI Assessment Work Plan, and those addressing the Work Plan for Groundwater Investigation. The Work Plan for Groundwater Investigation (Hahn Associates, Inc., March 18, 2002) is incorporated by reference into the May 22, 2002 Pre-RI Assessment Work Plan.

Pre-RI Assessment Work Plan Comments

1. Page 2. Work Plan Tasks. Paragraph 2. Point of clarification. In our May 5, 2002 teleconference, I indicated that the groundwater work plan was acceptable for review as part of the Pre-RI. This was not intended to imply approval of the work plan.

We understand your acceptance of this letter will include approval of the Pre-RI Assessment Work Plan.

2. Page 2. Work Plan Tasks. Paragraph 3. DEQ may require additional monitoring wells be installed, based on the results of the initial groundwater elevation or groundwater quality monitoring to determine if source control or remedial actions are necessary. The Agreement requires that the full nature and extent (vertical and horizontal) of hazardous substance contamination be delineated.

See response to Comment 2 on the Work Plan for Groundwater Investigation.

3. Page 3. Deliverables. Paragraph 1. The technical memorandum summarizing the storm water system evaluation described in Paragraph 4 of the previous section is not discussed. Data from the installation of the monitoring wells (boring logs, water level measurements, field sampling sheets, tabulated field and analytical laboratory data, laboratory data sheets, etc.) should be included in the technical memorandum describing the monitoring well installation and sampling.

Paragraph 4 of the Work Plan Tasks section states that the findings of the stormwater system evaluation will be provided to DEQ in a technical memorandum accompanying the results of the first round of groundwater sampling from the proposed monitoring wells. Data from the installation of the monitoring wells will also be included in the technical memorandum.

4. Page 4. Schedule. A schedule is not provided for submitting the technical memorandum. This memorandum should be submitted within 30 days from receiving the final laboratory report.

Agreed. This information may be submitted as part of the quarterly progress report, if the progress report is also due within 30 days of receiving the lab report.

During our June 19, 2002 meeting, Anchor pointed out that the stormwater catchments only drain the employee parking area, and are not within the drainage area of any industrial process or material handling areas. Anchor also noted, and DEQ acknowledged, that Brix follows best management practices for stormwater at the site, including maintaining filters in the catchment drains.

<u>Work Plan (Addendum No. 1) for Groundwater Investigation</u>

1. Page 4. Section 4. The following objectives should be included:

    - Define the nature and extent of groundwater contamination; and
    - Assess potential preferential groundwater to surface water pathways at the site.

Agreed.

2. Page 5. Section 5.1.1. DEQ believes additional groundwater monitoring wells should be installed and the location of the proposed wells should be modified. DEQ recommends that we meet, as soon as possible, to agree upon potential well locations. It is DEQ's expectation that wells will be installed in the following areas:

- At least one well should be installed in potential source areas (i.e., near B-21, B-27/B-28);
- Approximate location where historic drainages discharged to the river (see 1961 aerial photograph); and
- Other silt low areas, where preferential groundwater discharge pathways may occur.

Based on a review of site historic aerial photos, the location of pre-fill topographic drainage ways was evaluated to finalize the location of monitoring wells. On June 27, 2002, Anchor provided DEQ with a 1991 aerial photograph of the site with the 1961 pre-fill drainage swales marked on the photograph. The attached map (Figure 1) presents the location of the four proposed monitoring well locations. This map reflects a new location of MW-2 (5 to 10 feet southeast of former boring B-15) to place the well in the potential topographic low in the silt unit, and the addition of a fifth monitoring well to be placed approximately 15 feet map north of B-18. The intent of this additional well is to address DEQ's concerns regarding potential sources to borings B-17 and B-18, and to provide additional groundwater elevation data.

3. A revised site plan should be prepared that is accurate and to scale. The scale/distances on the current maps do not appear to be consistent with the aerial photographs for the site. Please provide an overlay of the site onto the 1961 aerial photograph to locate additional wells.

The attached map, Figure 1, with proposed monitoring well locations, is constructed on an aerial photo base dated 1991. The well locations were also evaluated using a 1961 site aerial photo with the photo scale adjusted to match the 1998 photo scale as closely as possible, as described in the response to DEQ comment 2.

4. Page 5. Section 5.1.2; and Figure 7. Figure 7 shows the proposed well design which extends approximately 2/3 or 10-feet of the well screen into the Silty Clay Unit. The proposed well design is not acceptable to DEQ. In two locations, previous direct-push probes penetrated through a thin silt layer. For example, the sample from GP-19 collected a water sample from a sand layer below a thin silt layer (3-5 feet thick). Based on the conceptual site hydrogeologic model, DEQ recommends that the proposed wells be installed by tagging the silt layer and extending the well screen no more than approximately 2 feet into the top of the silt.

Anchor understands DEQ concerns that future monitoring wells be constructed to minimize the possibility of cross contamination between the "fill groundwater unit" and the underlying silt. For all future wells where the "fill groundwater unit" is encountered, that unit will be screened with not more than two feet of screen into the underlying silt. Anchor pointed out to DEQ during the June 19, 2002 meeting that the "fill groundwater unit" will likely dry up in late summer or early fall, meaning that

some wells cannot be sampled. DEQ was also reminded that the silt underlying the fill is the pre-fill soil surface. The pre-fill soil surface has been very silty where previously encountered in site borings, but it is possible that the pre-fill soils are sandy or clayey in some areas on site. Therefore, the well screen design may vary depending upon the geologic units encountered at each borehole location.

At the planned location for well MW-4, there will probably be very little saturated fill; therefore, the well will likely have to be screened primarily in the riverbank alluvium below the road fill.

5. Page 6. Section 5.2. Groundwater elevations should be monitored on a monthly basis for a 6 to 12 month period.

We agree that groundwater levels should be measured monthly (no sampling or analysis).

6. Page 6. Section 5.3. The schedule of the second monitoring event should be defined. The second event should represent anticipated high water level conditions.

With DEQ's written approval of this letter and the Pre-RI Assessment Work Plan, we anticipate fieldwork to occur on July 17, 2002. Based on previous experience, the groundwater levels in July will be only slightly lower than the spring high groundwater levels. Therefore, we anticipate that the July groundwater data will be representative of the high water table season. By September 2002, the river and groundwater levels are generally near the yearly low elevation, and we plan to sample during late September. Therefore, we will consider the July and September sampling dates as representative of seasonal water table highs and lows.

7. Page 6, Section 5.3 and Table 1. It is DEQ's expectation that in addition to the groundwater analyses listed in this section that samples collected during the first sampling event will also be analyzed for the following constituents:

    - Volatile Organic Compounds (full list) by EPA Method 8260B (Note: BETX will be included);
    - Total Petroleum Hydrocarbons (Oregon TPH-HCID) and quantified if detected (Oregon TPH-Gx, TPH-Dx); and
    - Total and dissolved lead.

Even though we do not anticipate that these chemicals are present, we agree to perform the lab tests for the July sampling event. If they are not present, these chemicals will not be included in the fall sampling event.

8. Page 7. Section 6.1. See Comment No. 3.

See Response to DEQ Comment 3.

9. Page 8. Section 6.4. DEQ does not concur with the statement that "...soils have been well characterized" at this time. DEQ requests Brix review the available data set to assess if adequate polycyclic aromatic hydrocarbons (PAHs) and VOC data have been collected to be representative of observed petroleum contamination concentrations in soil. Additional data may be needed. For this investigation, DEQ expects that soil contamination encountered beyond the current understanding of lateral extent be sampled and analyzed for the appropriate contaminants of interest.

Representative soil samples will be obtained during drilling prior to the installation of the monitoring wells. The soil samples will be screened in the field using visual and olfactory indicators of potential petroleum contamination. The results of the field screening will be logged on the borehole records. If the field screening indicates possible petroleum contamination of soil in an area of the site where previous site investigations had not indicated the presence of soil contamination, a representative sample will be retained from that boring for laboratory testing. If multiple samples from a boring show field evidence of petroleum contamination, the sample with the apparent highest concentrations will be retained for laboratory testing. The designated soil samples will be tested for the same constituents identified in the response to DEQ comment 7.

10. Page 8. Section 6.5. Monitoring well purging criteria should be revised. Specifically, well purging should continue until water quality parameters stabilize as defined below:

    - pH: +/- 0.1 unit
    - Temperature: +/- 1 ^{0} C
    - Specific Conductivity: +/- 10%
    - Dissolved Oxygen: +/- 10%

The above requested monitoring well purging criteria will be used, with the exception of dissolved oxygen (DO). DO testing is not needed during well purging to determine if representative groundwater is being obtained for sampling.

11. Page 8. Section 6.5. Please revise the second sentence to read "....with new polyethylene tubing placed near or at the top of the water column."

New poly tubing will be placed near or at the top of the water column. This is Anchor standard procedure.

12. Page 9. Section 6.6. Analytical detection limits should be reviewed prior to implementing the field investigation to ensure that the anticipated laboratory detection limits are equal to or less than the anticipated project screening levels (e.g., risk-based concentrations; ecological screening levels).

We will review the DEQs proposed source control screening concentrations. However, in some cases the screening concentration may be below the laboratory method detection limit. In these situations, we will not consider undetected values (U) above the screening concentrations as a concern.

13. Appendix A. Please add depth of pump intake to the well purging and well sampling summary sheets.

Agreed.

We look forward to receiving DEQ's acceptance of this letter and approval of the May 22, 2002 Pre-RI Assessment Work Plan so that work may proceed.

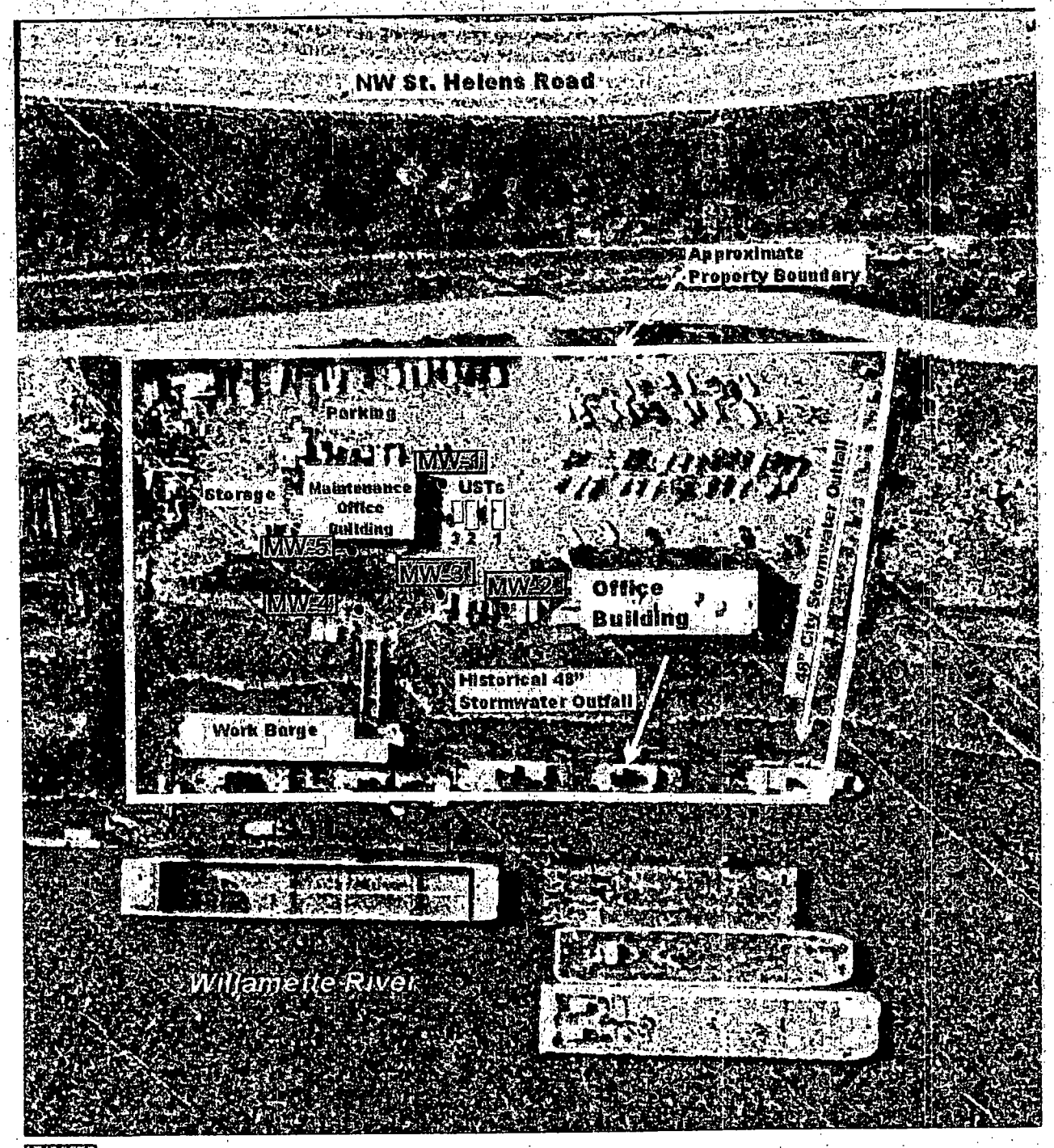
Sincerely,

John Edwards, RG, CEG

Anchor Environmental, L.L.C.

Attachment: Figure 1, Site Map

Cc: Frank Williamson, Foss Maritime
Kim Johannessen, Johannessen & Associates, P.S.
David Templeton, Anchor
John Renda, Anchor



MW-1 Proposed well location

Figure 1
Site Map - Brix Maritime

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